DOCUMENT RESUME

ED 411 452 CE 074 783

AUTHOR	Wilde, Francesca; Hardaker, Roger
TITLE	Clarity Is Power: Learning Outcomes, Learner Autonomy and Transferable Skills. Developing FE. FEDA Report.
INSTITUTION	Further Education Development Agency, London (England).
SPONS AGENCY	Department of Employment, London (England). Training Enterprise and Education Directorate.
ISSN	ISSN-1361-9969
PUB DATE	1997-00-00
NOTE	79p.
AVAILABLE FROM	Further Education Development Agency, Publications Dept., Mendip Centre, Blagdon, Bristol BS18 6RG, England, United Kingdom (10 British pounds).
PUB TYPE	Collected Works - Serials (022)
JOURNAL CIT	FE Matters; v1 n10 1997
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	Adult Education; Case Studies; Classroom Techniques; Educational Objectives; Educational Principles; English; Environmental Education; Evaluation Criteria; Evaluation Methods; Foreign Countries; French; Instructional Development; Models; *Outcome Based Education; *Outcomes of Education; *Personal Autonomy; Postsecondary Education; Program Design; Program Evaluation; Student Evaluation; Teaching Methods; Technical Institutes; *Transfer of Training; Vocational Education
IDENTIFIERS	Resource Based Learning; *United Kingdom

ABSTRACT

This report examines issues and approaches to course design and evaluation within the higher education (HE) sector that are relevant and applicable to the United Kingdom's further education (FE) sector. Chapter 1 examines the increasing emphasis on student-centered learning in FE/HE and the implications of that trend. Discussed in chapter 2 are the following: principles and benefits of the learning outcomes model, steps in writing a learning outcomes-based course, and assessment criteria and levels and grading in courses based on the learning outcomes model. Chapter 3 begins with a discussion of the benefits of focusing teaching on helping students develop autonomy. It details the advantages and techniques of the following methods for fostering learner autonomy: fewer lectures; small group work; peer tutoring; proctoring; resource-based learning; learning agreements/negotiated learning; changes in assessment; and continuous evaluation and review. Chapter 4 profiles outcomes-based course design efforts at two colleges. Among the issues and practices discussed in the two case studies are the following: academic progression; development of personal and conceptual skills; interdisciplinary studies; resource-based learning in environmental science; peer assessment in French; and development of independent learning skills in English studies. Four bibliographies contain a total of 102 references. (MN)

ED 411 452

Clarity Is Power:
Learning Outcomes, Learner Autonomy and Transferable Skills

Francesca Wilde and Roger Hardaker

Developing FE
FEDA Report

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learning outcomes, learner autonomy and transferable skills

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Clarity is power:
learning outcomes, learner autonomy and transferable skills

Francesca Wilde and Roger Hardaker

About the authors

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Published by the Further Education Development Agency (FEDA),
Citadel Place, Tinworth Street, London SE11 5EH
Tel: [0171] 962 1280 Fax: [0171] 962 1266

Registered charity number: 1044415

Printed by Henry Ling Limited, Dorchester

Cover photograph: with thanks to University College, Scarborough

ISSN 1361 9969

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Acknowledgements

This discussion document reflects the growing interest in course design in further and higher education and its implications for teaching and learning.

It encompasses some of the theoretical perspectives informing and influencing new developments, and explores these through the innovations of practising lecturers.

The interest and credibility of the document lie in the aspirations, experiences and reflections of the people represented here, and their analysis of theory in the light of action and practice.

Particular thanks must go to them for making their work open to scrutiny in this way.

Equally, I would like to pay tribute to Roger Hardaker and Francesca Wilde for their achievement in representing their colleagues' work in a study that is so stimulating.

Finally, thanks are due to the former Training, Enterprise and Education Directorate at the Department of Employment (TEED), and Ron Allen in particular, for making the project possible through both their financial and personal support.

Deborah Williams
Project Executive Director, University College of Ripon and York St John

The Span Project

The SPAN acronym stands for 'Support, Publicity and Networking' and the projects are funded by the Department of Employment as part of the Enterprise in Higher Education (EHE) scheme. The aim of these projects is to identify, record and communicate examples of good practice throughout further and higher education.

In September, 1993, University College, Scarborough (UCS) and the University College of Ripon and York St John (UCRYSJ) undertook a collaborative project focusing on course design and the development of students' transferable skills. The two project managers were Roger Hardaker for UCRYSJ and Francesca Wilde for UCS. The aim was to provide staff at both institutions with a discussion document containing reflections on learning outcomes-based course design, and descriptions of colleagues' experiences and conclusions.

The report has been written and edited by Francesca Wilde. Particular thanks are due to Dr David McAndrew for permission to reproduce in Chapter 4 of this report his discussion paper on course design and academic levels.

Many thanks also to Deborah Williams, for her unflagging commitment, intellectual energy and excellent advice; also to Dr Judith Vincent, for her support and guidance in the crucial early stages of the project; to Moyra Bentley, Head of Human Resource Development at UCS; and to the students and staff at both colleges.

Thanks to Tony Buzan from permission to reproduce Figure 1 from *Use Your Head* (see p.26). For further information, please contact the Buzan Centres Limited, 54 Parkstone Road, Poole, Dorset BH15 2PX. Telephone: [01202] 674676 Fax: [01202] 674776.

Roger Hardaker, University College of Ripon and York St John
Francesca Wilde, University College, Scarborough

Foreword

FEDA is pleased to publish this report. It examines issues and approaches within the higher education (HE) sector which are highly relevant and applicable to work in the further education (FE) sector. It offers another perspective on important issues, and illustrates how dialogue between further and higher education practitioners can be mutually beneficial.

The report provides a compelling argument for the benefits of a learning outcomes approach in supporting learner autonomy and clarifying the purpose of learning experiences. It provides examples of how personal and conceptual skills can be described in terms of learning outcomes, which will be of interest to FE.

The way in which achievement is expressed is important for FE and the learning outcomes approach has gathered momentum over recent years. FEDA has promoted this through its credit framework proposals (*A Basis for Credit?*, the *Framework for Credit* series) which identify learning outcomes as a key feature of a specification for achievement that could be used as the template for designing all awards and qualifications.

FEDA has also carried out work on identifying and valuing the broad outcomes of adult learning and will publish a report on it later this year. In addition, the last in the *Framework for Credit* series addresses in detail how to specify learning outcomes, and is due to be published shortly.

The report discusses the need for progression to be recognised, and therefore the need for levels. Currently there are no criterion-referenced levels for HE, but the report suggests that these might be defined on the basis of learner autonomy. FEDA's work on credit has proposed descriptors for four levels in FE and identifies learner autonomy as a key aspect. In addition it suggests that level should be defined by *complexity* in terms of skills, knowledge and understanding, and by *range* in terms of the contexts in which these are applied.

The report therefore raises a number of issues that the FE sector is also investigating and developing. Readers' views on the approaches described in the paper will be of interest to FEDA and to the authors. We look forward to your comments.

Caroline Mager
Head of Curriculum and Qualifications, FEDA

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Chapter 1
The agenda

Nation state or subject people? Two modes of learning

> *We endeavour to enable our students ... to be resourceful, skillful, practical, reflective and confident.*
>
> *(Mission Statement, University College, Scarborough)*

> *[We aim] to promote enabling teaching, learning and assessment strategies, including independent and co-operative learning for personal skills development.*
>
> *(Mission Statement, University College of Ripon and York St John)*

It is the contention of this document that most of the current initiatives in course design and delivery, assessment and accreditation, tend towards enabling the student to be more autonomous, and that this is the principal difference between the new ways of working and previous practice. This is not to say that new and old are necessarily incompatible, or that the 'new' does not, on closer inspection, contain large elements of the 'old'.

The word *autonomy* derives from the Greek 'autos', meaning 'self' and 'nomos', meaning 'rule', or 'government'. The concept of political autonomy seems to have its origins in the wars fought by the ancient Greeks to preserve their independence from Persian imperial expansion. A Greek city-state such as Athens had 'autonomia' when its citizens were free to abide by their own laws, rather than those imposed by a conquering power.

The educational theorist R. F. Dearden describes personal autonomy in similar terms, while stressing the governing importance of Reason in autonomous thinking and behaviour:

> *There are two aspects to [personal] autonomy, the first of which is negative. This is independence of authorities, both of those who would dictate or prescribe what I am to believe and of those who would arbitrarily direct me in what I am to do. The complementary positive aspect is, first, that of testing the truth of things for myself, whether by experience or by a critical estimate of the testimony of others, and secondly, that of deliberating, forming intentions and choosing what I shall do according to a scale of values which I can myself appreciate. Both understanding and choice, or thought and action, are therefore to be independent of authority and based instead on reason. This is the ideal.*
>
> *(1972, p. 46)*

It is an ideal which is gaining increasing credence in further and higher education, in opposition to modes of practice in which the teacher plays the part of Persia, bludgeoning imperialist state, delimiting the freedom of a subject people, or of Dearden's 'authority', dictating, prescribing and directing their thoughts and activities.

There is currently a revival of the 1960s contention that the teacher/learner relationship should not be one:

> *between one who possesses something and one who does not*
>
> *(Bruner, 1968, in Brookes and Grundy, eds, 1988, p.1)*

— that students, rather than being passive recipients and performers, should be the agents of their own learning; that the 'training-up' of creative thinkers is a better educational goal than the 'production' of helpless answer-givers.

There are also important practical reasons for a student-centred approach to learning. These are more than familiar to anyone working in FE/HE, and are dictated by the shift from an élite to a mass educational system. The implications of this change include:

- increasing student numbers without a proportionate increase in resources
- changes in course structure towards modularisation, lifelong learning, and 'opt in, opt out' structures
- new forms of measurement — accreditation of prior learning (APEL), and the Credit Accumulation Transfer Scheme (CATS)
- great changes in student profile — an influx of mature, women and part-time students

Institutions are also being required to compete for 'customers' by offering an attractive 'product': an appealing and relevant set of courses, a rewarding learning experience and a pleasant learning environment. The first two elements of this 'product': courses and the learning experience, are the most relevant here, since they may be susceptible to improvement through innovations in course design and teaching/learning methodology.

The working hypotheses of this study are that:

- 'good' graduates are those who, thanks in part to their education, can use their minds in independent, effective and creative ways, and who possess a range of knowledge and skills relevant to the world of work
- well-designed courses are more likely to nurture good graduates
- the development of personal autonomy is closely related to proficiency in the world of employment

However, the issues discussed here are constantly under review, as educational theory develops and is subjected to critique. Learning, teaching and assessment are the site of continuing debate:

> *As one's conception of the attribute is modified, there is a continual movement between conceptualisation and instrumentation. Any resting-place is only a provisional one.*
>
> *(Cronbach, in Thorndike (ed.) 1971)*

Since the remit of this project was to highlight good practice specifically in the areas of course design and 'transferable skills', the following discussion first introduces the learning outcomes-based model of course design, then deals with modes of learning which are intended to enhance students' prospects of success in the world of work and finally offers the first-hand experience of staff at both colleges who have designed new courses or have been engaged in projects to foster transferable skills.

Chapter 2

The learning outcomes model

The great divide

> *Higher education is primarily an intellectual preparation, it is not a vocational preparation.*
>
> *(Employer respondent, in Otter, 1992, p.3)*

There appears to be a strange paradox: many employers require graduate personnel, but see the process of studying for a degree as one which almost systematically 'unfits' individuals for gainful employment. It seems no exaggeration to suggest that there is often a conflict of interest between industry/commerce and higher education, or at best a lack of communication. This may be a legacy of the élitism of the British higher education system: the putative division between 'pure' and 'applied', 'training' and 'education' breeding mutual distrust. The word 'academic' is sometimes used as a term of abuse by employers, while academics appear to don protective gloves when handling such terms as 'vocational' and 'training'.

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The problem is summarised by Salter and Tapper:

> *As the major purchaser of higher education, the state is constitutionally bound to take an interest in the quality of return it gets on its investment of taxpayers' money.*
>
> *...in general, the state concerns itself with the relationship between two types of demand for higher education: the student for courses and the employer demand for graduates. In a perfect world the two forms of demand would match. Employers would get what they wanted, graduates would be happy, the economy would prosper...*
>
> *In reality none of this happens. Students' choice is informed by many factors other than their eventual job destination; information flow about available courses is imperfect, institutional inertia prevents a smooth response to changing student demand and employers are neither clear, nor necessarily right, about what they want.*
>
> *(1994, p. 11)*

Course design based on learning outcomes may be one way to bridge the gap between student needs and employer needs. It has the potential to assist further and higher education in serving the nation's economic interest, by opening channels of communication between employers and those working in education and training, including the vastly increased student body. It stimulates academic staff to articulate and communicate their educational intentions, an opening-up of ideas to scrutiny and critique which is in the best tradition of the academic community. Learning outcomes-based course design aims to make students more responsible for their own development, and make what is learned at this level more relevant to the world of work.

Language is power: the learning outcomes model

Learning outcomes are, simply, the expected results of a successful course. In a sense, the graduate her/himself is a composite outcome, having achieved, it is hoped, a number of goals and undergone intellectual and emotional maturation during the course. The outcomes are quantified as what the student knows, or can do, by the end of the programme of study, and they are written into the course description as a series of statements.

The learning outcomes-based approach to course design is fundamentally concerned with language: the discourse of course description. It derives from 1960s developments in structural linguistics and cognitive psychology, and is a reflection of developments in the philosophy and psychology of learning. Antecedents of the learning outcomes approach, and influences on it, include Bloom's taxonomy of educational objectives, Eisner's expressive objectives, Steinaker and Bell's experimental taxonomy, and more recently the work of Stenhouse, Rowntree and Kolb (see General bibliography, page 61). It has also been used in the development of the National Curriculum (NC) and National Vocational Qualifications (NVQs).

However, it has been found that the learning outcomes approach cannot be introduced without at least departmental, and preferably institutional support. Participants in other Enterprise in Higher Education projects were unable to submit reports on their new learning outcomes-based assessment procedures because these had foundered due to a 'lack of institutional support and co-operation from colleagues', shortage of time, and the problems of changing assessment style in mid course, 'without support from other staff' (Otter, 1992, p. 49).

There may additionally be resistance from staff themselves, or difficulties with degree-validating institutions which may prefer the Aims and Objectives model of course design.

The following section is an introduction to the learning outcomes model, for those unfamiliar with it.

> *Previously, it is suggested, the language of course design in further and higher education, formulated under 'Aims and Objectives' was exclusive, a type of sub-legal jargon or 'validese' understood only by course designers and validators. This language can tend to preserve traditional course structures by discouraging comment and input from other voices: professions, employers, government and students.*
>
> *(UDACE, 1991, p.5)*

Learning outcome statements, by contrast, are intended to describe

> *both knowledge of the subject and the intellectual and personal qualities which are developed as a result of in-depth study of a subject.*
>
> *(ibid.)*

Their explicit and detailed form is intended to make them more intelligible to other staff, students and those outside further and higher education. In particular, increasing students' understanding of what is expected of them may enable them to take greater responsibility for their own learning and help them to become more self-reliant employees.

LO statements, then, are broadly similar to course objectives, but couched in more accessible language, and explicitly describe behaviours which were formerly only tacitly acknowledged. They should be written in language which is intelligible to student and employer alike, to help both groups understand what courses contain and entail, and of what use they will be to the future graduate.

Learning outcome statements are helpful in that:

- they are (or should be) written in clear, intelligible language, and help to clarify the rationale of courses and pathways for both staff and students
- they help students to understand what they can expect to gain from their study, and what is expected of them

- they can indicate appropriate learning techniques and forms of assessment
- they can facilitate the accreditation of prior learning by indicating what skills and knowledge were required for previous courses
- importantly, they offer more flexibility in assessment, since learning can be demonstrated in a number of ways, allowing for individual difference and style

Writing a learning outcomes-based course

The following section is a brief guide to writing in the LO format, with grateful acknowledgements to UDACE (now NIACE), and Huddersfield University Curriculum Development Group.

The process can be divided into five stages:

Stage 1: formulate an ideal or aim. This could be:

- a notion of a good graduate
- the ethos of the subject area
- the values of the discipline
- the key purposes of study in this domain

— or a combination of these.

Stage 2: make a list of adjectives describing the ideal characteristics of graduates in the field. These could be divided into:

- skills/knowledge
- personal qualities

Stage 3: define competencies or clusters of principal activities in the subject area.

Stage 4: write learning outcomes statements.

Stage 5: write groups of statements describing what the student needs to do to demonstrate outcomes.

(UDACE, 1991, p.7)

The statements written for Stage 5 can be used for assessment purposes. The assessment criteria, by indicating to what level of competence the student is expected to demonstrate learning outcomes, will help to define the level of particular courses, modules or other units of learning.

Stage 4, however, is possibly the most challenging, since, in order to promote accuracy and clarity, there is a recommended linguistic format to follow.

The course description will usually open with a statement such as:

> 'By the end of the course, it is *intended* that the student will be able to...'

— *intended* rather than 'expected' because it is recognised that there can be no causal link between teaching and outcomes.

or alternatively:

> 'on successful completion of the module the student will be able to...'

— this formulation emphasises the link between the learning outcome and the assessment, and stresses that the student is central in the learning process rather than the tutor.

This is followed by a list of skills and areas of knowledge (learning outcome statements), expressed in language which makes clear that each outcome, or attainment, is capable of demonstration through assessment.

These statements should:

- broadly concur with the outcomes laid out in the description of the programme as a whole
- reflect assessment criteria
- be written in clear, straightforward language
- be few in number: sufficient to give an accurate idea of the requirements of the course/module, but not so many as to blur the distinctions between outcomes
- be criterion-referenced: satisfactory demonstration of all the outcomes should be the minimum achievement necessary for successful completion of the module
- attract academic credit

(Huddersfield University Curriculum Development Group)

It has also been found helpful to adopt a 'top-down' approach, starting from a statement of the course unit/module aims; to thematise rather than be eclectic; to distinguish clearly between outcomes and activities or methods; and to separate 'knowing that' from 'knowing how' as far as possible.

The grammatical form of a learning outcome statement is usually as follows:

- an active transitive verb or verb phrase, such as: 'state, 'describe', 'explain', 'give examples of'
- the verb's object
- a qualifying clause or phrase which provides a context or condition

For example:

> 'By the end of the course, it is intended that students will be able to:
>
> — identify and apply a range of theoretical perspectives both orally and in writing'

That is:

identify and apply	=	active verb or verb phrase
a range of theoretical perspectives	=	object
both orally and in writing	=	context or condition

Certain verbs function better than others for the purposes of assessment. 'Identify' and 'apply', for example, are used here because both imply verbal or written evidence, as supported in the context/condition clause, with its suggestion of assessment on performance in group discussion and written work.

Other verbs are less easy to pin down. Such words and phrases as 'know', 'be familiar with', 'believe' and 'learn the basics of' do not immediately lend themselves to demonstration in assessable form. They can be modified by context, however. 'Know', for example, can be clarified as 'know in detail', or 'know in general', 'know how to find out' and so forth.

However, a point made repeatedly in the SPAN project's staff workshop discussions was that taxonomies of 'usable' and 'non-usable' verbs were less than helpful in writing LO-based courses because they were seen to be prescriptive and semantically simplistic. Similarly, classification into knowledge outcomes, ability outcomes and personal outcomes provoked lengthy and heated debate on the distinctions (or lack of them) between knowledge and performance, personal and 'academic' outcomes.

It was also suggested that learning outcomes-based course design, because of the specificity of its language, could be reductive or 'behaviourist'; that it was assessment-driven, and took little account of other, less quantifiable, but nonetheless valuable attributes developed by the student as the course progresses.

Otter notes that although it is possible under the LO model to furnish descriptions of *'some* of the previously implicit values thought to be imparted through higher education', other values, 'notably those concerned with professional ethics and moral values, were clarified through discussion with staff and students, *although they were not always well captured in words'*. (1992, p. 14 my emphases.)

This question was raised repeatedly during the design process of the joint University College, Scarborough/University College of Ripon and York St John's new LO-based teacher education degree.

However, it should be borne in mind that one of the strengths of the LO model is that it can limit the risk of reductionism. Learning can be demonstrated in a number of ways, rather than following the format: 'the student will do A in the context of B to the standard C' exemplified in some competency/GNVQ approaches.

It is also quite possible to adopt a flexible common-sense approach to this type of course design, which structures the language of course description to reflect the philosophy of individual departments and institutions, as well as encapsulating the clarity and accountability which is the model's hallmark.

Assessment criteria

> *...the description and assessment of learning outcomes need to proceed hand in hand.*
>
> *(UDACE, 1992, p. 50)*

The UDACE study showed that drawing up assessment criteria made staff aware of the need to refine and clarify their original learning outcome statements. This need in turn revealed the importance of consultation and negotiation with students in defining outcomes, leading:

> *some staff to feel that the learning outcomes approach was not as instrumental as they had feared, since it required staff and students to talk about what they were trying to do, ... [permitting] students some freedom of expression, and [allowing for] other unplanned learning outcomes.*
>
> *(ibid.)*

One important result of discussing assessment criteria with students is that it demystifies the value systems underlying particular subjects, as well as the previously arcane process of the evaluation and appraisal of students' work. It allows students access to the language used to judge them, a privilege formerly available to the course designer or tutor alone. It is our contention that this 'sharing of the secret', which in the short term is likely to make both student and tutor uncomfortable, can only be beneficial in the longer term as regards students' development as autonomous thinkers and questioners: the ability to decide their own assessment criteria is a learning outcome in itself. For a practical guide to helping students devise their own criteria, see Boud (1995).

Levels and grading

More than one member of staff voiced the concern during SPAN workshop discussions that learning outcomes did not appear to reflect developmental progression.

The placing of learning outcomes in assessment levels remains problematic, since an outcome may appear at more than one level and in more than one module or course unit. Moreover, different disciplines will often require similar outcomes, but often at different stages of the student's development.

Further, it would appear that credit accumulation and transfer scheme regulations are less than clear on the matter. Two solutions are suggested: a) that learning outcomes be used as markers of progression or prerequisites; b) that the same LO statements could appear at several levels, but that assessment criteria be made more demanding at each level.

According to this model, LO statements would describe a successful graduate's 'qualities' (for want of a less contentious noun), but levels would be developmental, rather than prescriptive.

A good basis for criterion-referenced levels might be the developing autonomy of the student. In this case, the early parts of a course would be designed and managed by tutors. At higher levels, students would be expected to do more work for themselves, while at the same time practising transferable skills such as working co-operatively with other students. At the final level, the student would work almost wholly independently, the tutor giving occasional appraisal and feedback. This approach is perhaps similar to the ideal progression of a student reading for a traditional degree, with the difference that the expected outcomes at each level are made explicit in writing.

How credit is awarded for outcomes, or clusters of them, also appears to be problematic, and is defined at present by the quality assurance procedures of individual institutions. Comparability between

disciplines at different institutions is also a current and nationally contentious issue.

The notion of coherence is a crucial one, and however flexible course choices and pathways through modular programmes may be, most institutions require the completion of a core section or core modules, to allow comparison between students and between courses.

It was suggested that the outcomes at the end of the course — what constituted, in other words, a graduate of a particular discipline — were the most significant, and that levels could then be devised retrospectively, or downwards, from 'macro' to 'micro'.

However, the question of standardisation for CAT purposes is an intractable one, for both learning outcomes-based and traditional courses. The explicit nature of learning outcomes courses should make comparison easier, provided assessment criteria are equally clear and stringently applied.

These issues are addressed in more detail by David McAndrew, whose discussion paper on academic progression is reproduced in Chapter 4 'Principles and Practice' (see page 37).

Chapter 3
Teaching for autonomy

Autonomy: developing skills for life

The 'skills' or qualities discussed in this section are variously described as 'generic', 'general' or 'transferable'. They are those characteristics which it was formerly assumed a graduate acquired, or improved, by an osmosis-like process, while studying for a degree.

They include:

- effective spoken communication
- cohesive, coherent and cogent writing
- the ability to seek out, organise and present information
- working co-operatively
- problem-solving
- interpretative and analytical abilities
- critical self-awareness

Some might argue that the way to develop such characteristics was by hard experience, hard work and some happy coincidence. How better to achieve self-determination than to overcome the obstacles of, for example, distant and uncommunicative tutors, complicated library systems and an academic process in which the rules are never made clear but punitively enforced? Not all students, however, learn to 'work' such a system.

A more equitable system would aim to help all students to achieve their potential, both scholarly and vocational. Under such a system:

> *Teachers are encouraged to see themselves as facilitators of students' active learning; to develop students' autonomy in their discipline; to give as much emphasis to the development and assessment of skills as to the imparting and examination of knowledge; to acknowledge the importance of oral communication and debate; and to foster a co-operative rather than a purely individualistic attitude towards intellectual endeavour.*
>
> *The practical consequence of teaching ... in an institution which is committed to Enterprise in Higher Education is that methods of teaching and assessment which were previously inconceivable in a twentieth-century British higher education institution now become possible, and practices which were carried out at the margin (and in some cases surreptitiously) become central... Provided that the right structures are put in place, less teaching means more learning — with the added bonus that graduates are more capable of functioning as life-long autonomous learners when the knowledge they acquired at university becomes out of date.*
>
> *(MacDonald Ross* et al., *1993)*

Transferable skills, then, may be fostered through a radical change in approach to teaching and learning. The greater clarity and explicitness of learning outcomes-based course description is one half of this process; the other is a commitment to the reasoned responsibility of the individual for their own progress and growth.

Teaching and learning autonomy: some methods

Some practical methods for achieving greater learner autonomy are discussed below. Grateful acknowledgments are due to MacDonald Ross *et al.* (1993), whose arguments inform this section.

a) Fewer lectures

Teaching by lecture has a number of advantages:

- economy: as in the mediaeval university, where books were scarce, information can be transmitted to a large number of students simultaneously
- currency: the best lectures can expose students to the latest developments in the field, in an intelligible and often inspiring fashion
- credibility: lectures can establish the authority and knowledge of the lecturer in the eyes of the student
- accuracy: audio-taped lectures can be valuable sources of information for students
- dynamics: lectures can give students a sense of 'belonging' to a discipline and a particular student body
- administration and contact: the prefatory remarks to lectures often concern administrative matters, and afterwards students may have access to tutors who otherwise might be difficult to track down

The failings of the lecture in terms of 'deep' learning or long-term recall have been famously pinpointed by Bloom (1965; see Figure 1, p.24), and there are a number of additional limitations:

- lectures are generally a less efficient means of conveying information than the printed word, and arguably put the student in a position of passive receptivity, rather than active learning

Figure 1: Bloom's Taxonomy from Bloom, B.(1956) Taxonomy of Educational Objectives: the Classification of Educational Goals Handbook 1: The Cognitive Domain

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- if students are following a range of different degree programmes, they can be difficult to timetable (but so can seminars and small group work)
- an uninterrupted presentation of nearly an hour is beyond the attention span of most students — this is probably the greatest disadvantage of lecture-based learning

The latter observation has been convincingly made by Buzan (1994; see Figure 2, p.26).

In view of these reservations, it would seem advisable to use lectures sparingly, as occasional delicacies rather than standard fare; to reduce the number of traditional lectures and introduce a repertoire of teaching and learning strategies, e.g. group work, peer tutoring and proctoring.

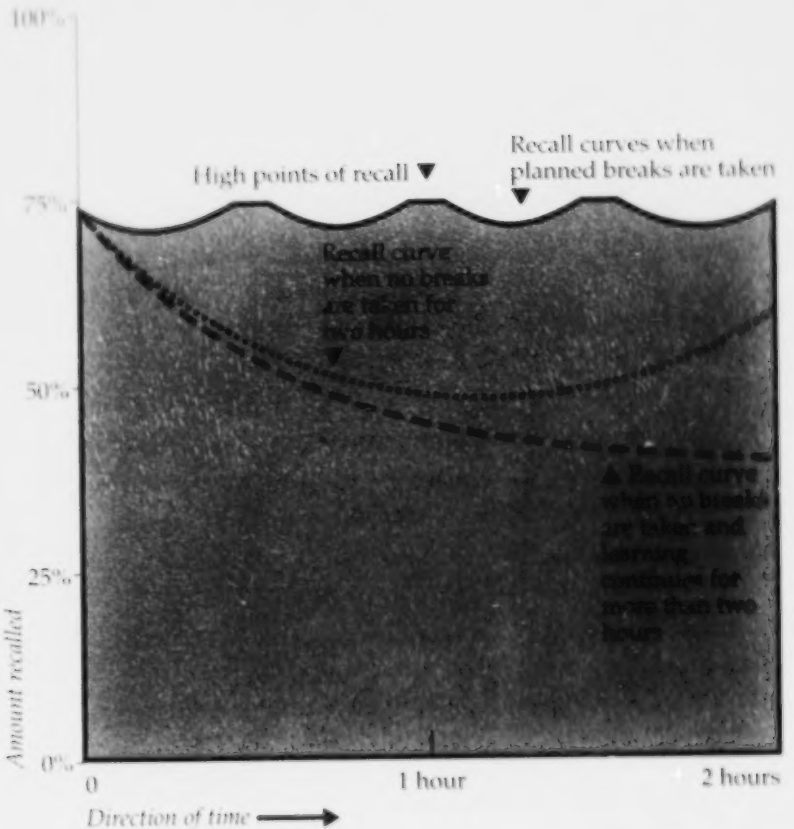
Doing so will mean that the student has a great deal more responsibility for their work, but will need a greater degree of tutor support. It is also very easy for tutors to overload students, in the desire to ensure that the requisite ground is covered. To avoid overburdening the student, it may be helpful to:

- establish the notional number of study hours per course
- estimate the time needed for the activity: this should be checked against students' own experience
- include minimum and maximum requirements, to reflect students' ability and speed of working

It is also beneficial to provide students with clearly-written instructions on such matters as the amount of preparatory work to be done for seminars or lectures, and guidance on study skills such as how to find information, organise and record it for recall or later use.

Figure 2 Recall during learning – with and without breaks
From Buzan, Tony (1989) Use Your Head, London, BBC

A learning period of between 20 and 40 minutes produces the best relationship between understanding and recalling



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b) Small group work

Small group work can be highly effective, but needs careful consideration as, in seminar activity at least, it can become just as teacher-directed as classwork. A policy of observation rather than leading can be difficult for the tutor to maintain, especially if the discussion or activity becomes ragged or disorganised. Students often enjoy the livelier and more meaningful interaction with each other that group work can bring; but some of them inevitably prefer the tutor to do most of the work. A strong commitment to group work is necessary on the tutor's part, as well as the recognition that some input and explanation will be necessary in the early stages.

MacDonald Ross *et al.* give the following useful hints on small group work for seminars in philosophy:

> *every participant must come prepared (this may require some incentive e.g. random checking of preparatory notes, or not saying in advance who will be asked to open the discussion)*
>
> *for student learning to be active, the students should perform first, with the teacher playing a reactive role (principally that of commenting on and assessing student performance, and suggesting improvements)*
>
> *the discussion should have a clear structure and purpose, with a well-defined outcome*
>
> *students should be consciously helped to acquire good discussion skills*
>
> (*MacDonald Ross* et al., *1993, p. 32*)

Group work can, of course, be project-, problem- or task-orientated as well as discussion-focused, and once students become habituated to this mode of learning, they often find it empowering.

c) Peer tutoring

Qui docet, discit. (One who teaches, also learns.)

Comenius

To ask a proficient student to coach one who is at a slightly lower level may seem both economical and educationally advantageous: it releases the tutor from lengthy and iterative individual sessions, while the student 'tutor' consolidates their knowledge by communicating it. In practice, the advanced student may feel exploited and resent going over old ground rather than learning something new, and the 'tutee' can feel patronised or second-rate. This approach seems to work best on a purely spontaneous or voluntary basis, depending heavily for its success on the personalities of those involved.

The alternative approach, more accurately described as collaborative learning, can be more productive. It entails an explicit nurturing of the interaction which so often occurs informally between students studying the same subject: they are encouraged to discuss assignments with each other, pool ideas and develop joint approaches. This method lessens the isolation which is often a feature of study in further and higher education, and can make the learning process less daunting and more enjoyable. It may be inimical, however, to the individual, often a high-achiever, and/or a very shy person, who wants to keep ideas to themselves.

d) Proctoring

A student who has already covered the topic to be discussed acts as 'chair' of small group discussion, ensuring that the debate is orderly, well-reported and reaches some conclusions, or raises more complex questions for further debate. However, it should be emphasised that one of the main points of proctoring is that proctors should not be authority figures or assessors, and less confident students should feel free to speak their minds as a result.

Again, this is an economical approach in terms of tutor-student contact, and has the advantage of increasing students' independence and reliance on their own judgement. For the proctor, it can be a valuable exercise in management, self-control, and the deployment of tact and/or assertiveness. The written account of the discussion can also be evaluated by the tutor.

e) Resource-based learning

Resource-based learning is often advocated as economical, since it reduces the amount of contact time between student and tutor. However, it must be acknowledged that this approach itself requires significant resources, both material: computers, project booklets, etc., and human, since the preparation of effective materials is highly labour-intensive and no simple task.

Well-designed courses of this type, however, can transform students' learning experiences and give them far greater confidence to engage in increasingly complex and challenging activities (see, for example, Graham Scott's experience in Chapter 4, page 53).

A list of publications on resource-based learning can be found at the end of this study (see page 67).

f) Learning agreements/negotiated learning

> *What we need to be clear about is that any choice made by the teacher - to negotiate, to provide a structured syllabus based on any categories whatever, to refuse to structure at all - involves a restriction of the freedom of the learners: a restriction which learners properly expect as inherent in the teaching contract.*
>
> *(Brumfit, in Quirk and Widdowson, 1988, p.152)*

A learning agreement, or contract, is drawn up by the student and tutor in collaboration. It details what the student needs to learn, how they will

go about it, how long the process should take, what will be the result or outcome, and what will be the criteria for evaluation. In the case of LO-based courses, the outcomes are already defined, but the ways to achieve them could form the basis of a learning agreement. The agreement should be open to renegotiation and modification at specified intervals, so that it remains a flexible and helpful tool, rather than a straitjacket.

Such agreements have numerous advantages:

- they provide a 'framework for discovery' (Brown and Baume, 1992, p.8): a practical, dynamic way to structure learning
- they acknowledge differences in individual's learning strategies and personal philosophies
- since learning agreements offer students more ownership of their learning, as well as a structured and developmental approach, they can be highly motivating
- there is a greater degree of autonomy on the part of the student

This kind of learning can develop students' generic skills, particularly in the later stages of courses when students may be on placements with employers, or undertaking substantial pieces of self-directed work. In addition to those listed at the beginning of this section, these skills might include:

- decision-making
- taking considered risks
- damage limitation
- negotiating
- time management
- being self disciplined
- setting priorities
- being accountable
- fostering relationships

Proponents of negotiated learning also suggest that it helps to develop higher level skills, that learning is deeper and more permanent, since, rather than just memorising knowledge, students apply it.

At the University College of Ripon and York St John, learning agreements are devised as a way of controlling the quality of work placements for students involved in work-based learning. They allow for a more searching evaluation, by all parties involved, of students' performance. Employers are directly involved in agreeing learning outcomes with students and tutors prior to their placement and in setting criteria for assessment. An information pack detailing the policies, procedures and forms of assessment of work experience placements has been devised and is offered to employers.

g) Changes in assessment

Endeavours to foster student autonomy and generic skills usually entail broad changes in systems of assessment, moving away from summative written examinations to continuous assessment, profiling, marked oral presentation, marked learning journals, peer assessment, or the combination of a number of these procedures. Overall, the tendency is towards a greater openness and partnership between student and tutor, in accordance with the need to foster independence and personal initiative.

h) Evaluation and review

The continuous evaluation of course content and teaching/learning methods is particularly important when both are undergoing radical change. Courses and staff must be responsive: there is no point in evaluation for its own sake. If students are asked to give their comments, and do so in good faith, it is counter-productive if no action is then taken to improve the situation. Course evaluation can degenerate into a superficial exercise: if it is to be effective, it must have teeth.

Students' involvement in evaluation of their own work, of the courses they undertake and of the institution itself, can be valuable parts of their maturation process, and the ability to evaluate clear-headedly and objectively is a characteristic often highly prized in a potential employee.

Summary

In brief, some of the practical methods of fostering the autonomy which underpins the outcomes method are:

- to reduce the number of traditional lectures and to introduce a repertoire of teaching and learning strategies, e.g. group work, peer tutoring and proctoring
- to provide an extended range of learning materials/resources for independent use by students
- to increase students' responsibility for managing their own progress through negotiated learning
- to increase the opportunities for evaluation of both learning content and the learning process through discussion, and give students the opportunity to evaluate and assess each other's work
- to introduce a range of assessed activities to 'match' learning outcomes, e.g. teamwork and presentation

The major obstacle to the development of younger students' intellectual and practical autonomy, however, may be the teaching to which they have been exposed prior to their arrival in FE/HE. Traditional entry learners can become accustomed to transmissive teaching and the memorising of information for reproduction in examinations and may find some of the approaches mentioned above deeply unsettling.

The same is often true of mature students, perhaps for different reasons. 'We like to be taught', they say, almost unanimously. They enjoy being taught because it is a luxury; it gives them a brief respite from their adult responsibilities of family and (un)employment, as well as from

research and assessed work. They take pleasure in having the tutor perform for them, work to interest and entertain them, enthuse about the subject, perhaps motivate them to do their best. To be taught well is a pleasure which should not be undervalued, and one which does not necessarily preclude the development of independent learning skills.

It seems equally likely, however, that most students of whatever age and educational background arrive in FE/HE with an open attitude to what it may entail, but are 'socialised' into certain expectations by their first experiences. These expectations are then very resistant to change. One solution to this problem might be for tutors to take time to talk to students about their mutual expectations of their interactions and work towards an operational agreement, which could be monitored and modified as the course progressed.

In terms of learner autonomy, ideally the process should be developmental, much pedagogic support being provided in the early stages, then gradually withdrawn as individuals develop (with explicit help) their own strategies. It seems self-evident that students must ultimately disengage themselves from their teachers, in order to achieve their own potential. Sometimes, however, further and higher education do not sufficiently provide for such disengagement, with the result that many graduates achieve success only through a lengthy and bruising process of reorientation in the outside world. We suggest that an enabling knowledge of the purposes and outcomes of a degree course will assist the student to achieve the independence of mind necessary to become a lifelong learner, as well as the ability to identify and deploy the particular skills s/he has developed.

Chapter 4

Principles and practice: staff experience of course design and evaluation

Learning outcomes-based course design at the two colleges

University College, Scarborough has recently made a commitment to the learning outcomes model, and all courses are being redesigned accordingly.

The University College of Ripon and York St John is entering the final part of a five-phase EHE programme, intended to enable students to:

- achieve significantly enhanced autonomy as learners
- enhance personal capability
- develop a wide range of general intellectual, social and applied competencies

The programme seeks to move away from a traditional teaching approach towards more student-centred learning. This learning is likely to occur, moreover, in the workplace and the community as much as in

the library and laboratory; in interaction with others, and in activity as well as reflection. It is characterised by enabling, as opposed to transmissive, teaching methods.

Many courses have been (re)written in learning outcomes format, and the first batch of such courses became operative in November 1993. Staff often found their design a taxing process and had particular difficulties, for example, with writing assessment criteria. They also felt that some initial modules were less than perfect, but a continuing programme of evaluation and modification has led to rapid improvement. Across the institution as a whole, it is estimated that the process of adopting learning outcomes-based course design and, in some cases, of persuading staff of its usefulness, is likely to take at least three years.

The following section starts with a discussion document, 'Academic Progression' written by David McAndrew, Director of Studies at the University College of Ripon and York St John. He was the first Director of the EHE programme at the College, and maintained a management role throughout its development (1990-5). His paper is followed by three reports selected from a series of interviews in which we asked members of staff at both colleges to reflect on their own experiences of new course design in the modular system, and particularly on matters such as the fostering of generic skills.

1. Academic progression

David McAndrew, The University College of Ripon and York St John

The concept of academic progression must be central in any consideration of the quality of learning in HE. Additionally, higher education is increasingly developing a system designed to enable the accumulation and transfer of academic credit.

The first section of the paper outlines an overall strategy for achieving a definition of academic progression expressed in terms of capability[1] and defined within four domains: the subject discipline, professional education, generic personal skills, and generic conceptual skills.[2] Since the two categories of generic skills have the widest application across the curriculum, they are discussed in detail.

The second section considers a proposed categorisation of **personal generic skills** and a model of the performance capabilities[3] that might be seen to articulate these skills. It also demonstrates the translation of these performance capabilities into learning outcome statements, thereby providing a systematic and criterion-referenced method for the assessment of skills performance.

A parallel model for the definition, analysis and assessment of **conceptual skills** is outlined in the third section.

The structure of the proposed model is summarised in the fourth section.

Section five summarises the scope of the paper.

a) Defining academic progression

Progression in learning implies staged development within a structured framework. For the College, the framework within which academic progression is planned, identified and assessed is its credit accumulation and transfer (CAT) scheme, structured in three levels.

For progression to be identified and secured it is necessary that each level in the scheme be characterised by explicitly defined features. In the

current degree programme, the characteristics that determine the distinction between Part I and Part II are almost entirely implied and assumed, rather than defined and made explicit. In the future, the features that characterise learning at each of the three levels need to be generic and defined. Both staff and students need to be fully aware of these features.

Domains of capability

In general, academic progress can usefully be understood as a development from relative learning dependence towards a significant degree of learning autonomy. Such independence in learning may be seen in terms of the learner's enhanced knowledge and extended capabilities.

This paper sets out a proposed grammar of independence in learning, based on a categorisation of these capabilities into four domains:

- discipline-related content and skills
- professional knowledge and skills
- generic conceptual skills
- generic personal skills

Given this categorisation, it is possible to define learning progression by tracking the development of capability within these skills domains. However, to do so requires two things: a systematic and precise definition of what constitutes capability in these skills, and a systematic, practicable and reliable way of assessing performance in these skills.

The scheme described below endeavours to meet both macro and micro requirements; that is, the need for consistency in levels and progression across the whole curriculum, as well as the need to respond to the unique characteristics of different degree programmes and modules. As a model it is intended to guide course designers towards consistency; but it can also be 'customised' by course designers and leaders according to their own needs.

This section sets out a) to consider the four proposed domains and b) to demonstrate that, within the generic domains of perceptual and personal skills, means can be provided for distinguishing the three CATS levels. These distinct levels can then be applied across all schemes of study, disciplines and professional awards.

Domain one: Discipline-related knowledge and skills

In general terms each subject-discipline in higher education operates within a well-established consensus of what features define progression in learning. This consensus is largely implicit and rarely defined. Within the consensus, assumptions relate mainly to subject-specific knowledge and skills: that is to say, chronological sequencing, logical progression, discipline-specific skills and increasing complexity.

In higher education these subject-specific level-determinants are of central importance. However, where progression is defined in these subject-specific terms, the terms are — of their nature — not appropriate for multi- or interdisciplinary application. In order to achieve consistency in the determination of progression in multi- and inter-disciplinary schemes it is necessary to identify a system of 'level characteristics' which lie outside discipline-specific areas, in terms that are common across a range of schemes of study.

Domain two: Professional knowledge and skills

In professional fields such as teacher education or occupational therapy, progression is naturally expressed in terms of professional knowledge and skills. Here, too, there are shared assumptions about professional content and levels of professional development. However, external and internal imperatives have often already ensured the development of systematic typologies of professional skills.

If an integrated system of level-discriminators is to be developed, terms with multi- or inter- disciplinary application are also needed in the field of professional training.

Domains three and four: generic skills

It follows that only capabilities defined in terms of the third and fourth domains — generic conceptual and generic personal skills — are potentially applicable across the whole range of schemes and professional programmes.

b) Terminology

'Capability' v. 'competence'

The term 'capability' is used in this paper at a time when the development of NVQs and GNVQs has given wide, if not entirely uncontentious, currency to the alternative term 'competence'. This paper assumes that 'capability' is a term more appropriate in higher education, for the following reasons.

In the NVQ context the term is exclusively related to the workplace and the performance of discretely-defined, work-related skills. Higher education, in the non-vocational as well as the professional and vocational sectors, is developing increasingly effective and appropriate links with the world of work, but not in terms of discrete, task-oriented skills.

Sue Otter has spoken in favour of what she refers to as a 'holistic' application of the term 'competence' (*The New Academic*, summer 1992). She points out that in higher education,

> *the construct of competence has relied less on the ability to describe the competence in detail than on the general ability of individuals to act intelligently in a range of situations that cannot be predicted beforehand...*

She goes on to suggest that, according to the holistic view,

> *one cannot describe competence on the basis of functions and tasks, instead it is an attribute of the individual, and describes what s/he brings to the job.*

In her view the holistic notion of occupational competence offers the right model, since it is concerned with the:

> *learning outcomes, rather than the competencies or the processes through which they are developed.*

While supporting fully the substance of this argument, this paper prefers to use the term 'capability' rather than 'holistic competence'.

'Skills' and 'learning outcomes'

A skill, as defined within this model, is an abstract term denoting an area of ability, e.g. **communication skill**. A statement of communication skills might be expressed as follows:

Personal skill

Communication: the skills required to convey, receive, respond to and transmit different kinds of information and ideas

Capability in a personal skill can be seen to be comprised of a number of performance capabilities. A 'performance capability' expresses the abstract notion (e.g. **communication**) in terms of the performance which, where achieved, would demonstrate capability in that skill area. A statement of performance capability, while moving from abstraction to action, would still be formulated in generic terms:

Personal skill	Performance capability
Communication:	For example:
the skills required to convey, receive, respond to and transmit different kinds of information and ideas	*adapting to subject, circumstance, and audience*

This generic definition of a capability can be re-expressed in terms of particular action, or actions, that might constitute effective performance of that capability. In other words, it can be re-written as a learning outcome statement [4]:'

> 'By the end of the course, it is intended that the student will be able to:
>
> select a subject at an appropriate level'

Further qualifying clauses will help to identify the constituents of effective performance and refine the statement:

> 'select a subject
> at an appropriate level
>
> with appropriately limited scope and simple conceptual content
>
> for presentation to a small group of fellow students
>
> with considerable instruction and guidance from the tutor.'

Evaluative adjectives such as 'appropriate', 'introductory', 'limited' and 'considerable' serve two important purposes: they hint at suitable forms of assessment [5], and they indicate the **level** of achievement required.

The following sections, which focus on the personal and conceptual skill domains, present typologies of generic skills with associated

performance capabilities at appropriate levels and suggest a methodology for their assessment.

c) Personal skills: a typology

In 1993 Marjorie Allen, Director of the Personal Skills Unit at the University of Sheffield, produced a report entitled *A Conceptual Model of Transferable Personal Skills*. In 1990, the conceptual model then being developed by the Sheffield Unit was modified to provide the framework supporting the University College of Ripon and York St John's Enterprise programme on the generic skills.

The Sheffield model identifies four skills areas as relevant and appropriate to all disciplines:

Communication	the skills required to convey, receive, respond to and transmit different kinds of information
Teamwork	the skills required to work harmoniously and effectively with others
Problem solving	the skills required to identify and address problems, to generate solutions, to choose between alternatives and to take appropriate action
Management and organisation	the skills required to plan and implement systematic and effective action

The College Enterprise Unit amplified these definitions by seeking to identify the performance capabilities that would ensure effective action in the defined areas:

Personal skill	Performance capability
Communication	
the skills required to convey, receive, respond to and transmit different kinds of information and ideas	*listening critically, recording, questioning, presenting, explaining, asserting, arguing, convincing*
	adapting to subject, circumstance and audience
	facilitating communication among others
Teamwork	*working effectively as part of a team*
the skills required to work harmoniously and effectively with others	*accepting responsibility in a variety of roles within a team*
	facilitating and managing relationships within a team
	assessing effectiveness of self and other members of a team
Problem solving	*identifying the problem and its key features*
the skills required to identify and effectively address problems	*selecting and analysing relevant information*
	selecting and testing strategies for resolving the problem
	implementation and evaluation of outcomes
Management and organisation	*analysing tasks, identifying desired outcomes*
the skills required to plan and implement effective action	*planning action, setting targets and organising resources*
	effectively managing self and others
	monitoring progress, reviewing outcomes, evaluating

Learning outcomes and levels of progression

With a working definition of personal skills and concomitant performance capabilities, a translation to learning outcome statements can be effected, using the formulation:

> *'By the end of the course, it is intended that the student will be able to...'*

Simultaneously, the learning outcomes may be graded into appropriate levels within the CAT scheme, as in the example below:

Personal skill	**Performance capability**
Communication	*adapting to subject, circumstance and audience*

Learning outcomes

Level one:
By the end of the course, it is intended that the student will be able to select a subject at an **appropriate introductory** level with **appropriately limited scope** and **simple** conceptual content, for presentation to, and discussion with, a small group of fellow students, with **considerable** guidance from the tutor.

Level two:
By the end of the course, it is intended that the student will be able to select a subject at an **appropriate intermediate** level with **appropriately extended scope** and **more complex** conceptual content, for presentation to, and discussion with, a whole course-group of fellow students, with **very limited** guidance from the tutor.

Level three:
By the end of the course, it is intended that the student will be able to select a subject at an **appropriate advanced** level with **wide** scope and **complex, sophisticated** conceptual content, for presentation to, and discussion with, a **diverse** audience, **independent** of any detailed support from the tutor.

This translation from performance capability to learning outcome can be effected for each of the 16 defined performance capabilities, within the generic personal skills areas.

As has been demonstrated, as a consequence of a sharper definition of skills and performance capabilities, and of the application of a learning outcomes approach, the systematic assessment of personal skills becomes possible. The form of the assessment is to a significant degree prescribed by the statements of learning outcomes.

The process of course design, then, moves from broad skills categories to specified methods of assessment, as outlined in the following example, 'problem-solving':

Personal skills

communications
teamwork
problem-solving
managing and organising

Performance capability

selecting and analysing relevant information
identifying the key features of the problem
selecting and testing strategies for resolving the problem
implementing action and evaluating outcomes

Learning outcomes level 1:

By the end of the course a student will be able to:

review two or more strategies offered by the tutor for resolving the problem
apply given criteria for the selection of an appropriate strategy
apply the selected strategy to the problem

Assessment strategy

Essay 2,000 words

Choose two or three of Auden's 1930s lyrical poems. Outline a reading which emphasises the personal values that underlie the poems, and one which represents a possible political reading of the poems. Identify the strengths and weaknesses of each approach.

d) Conceptual skills: a typology

There are many systems for categorising conceptual skills. What follows is a proposed categorisation that might be used within the College schemes of study. The categories and descriptions used are derived in part from Bloom's taxonomy, in part from the Alverno model, and in part from the working documents produced by Graham Rawlinson at Leeds Metropolitan University.

In a system parallel to that suggested for the personal generic skills, it is proposed that conceptual capabilities should be grouped into four general skills areas, with descriptors:

Application	the ability to observe, collect, organise, classify and apply knowledge
Analysis	the ability to analyse information and ideas
Synthesis:	the ability to synthesise information and ideas
Evaluation	the ability to deal with issues of relative value and to apply reflective techniques

Using this framework, a series of performance capabilities for each area of conceptual skill may be outlined, to identify the performance capabilities that would ensure effective action in these areas:

Conceptual skill	Performance capability
Application the ability to observe, organise and apply knowledge	*observing, selecting, recording and recalling information and ideas* *explaining information and ideas* *classifying information and ideas* *applying knowledge to issues and problems*
Analysis the ability to analyse data and make appropriate explanations	*selecting and applying appropriate tools of analysis* *identifying inadequate analyses and inferences* *making appropriate inferences from the analysis of data* *recognising assumptions and implied conceptual frameworks*
Synthesis the ability to identify relationships and establish hypotheses	*identifying patterns of meaning within bodies of data* *establishing conceptual frameworks for the explanation of data* *creating, applying and testing hypotheses*
Evaluation the ability to appraise and to handle value judgements	*developing and applying systematic review and appraisal processes* *evaluating results and explanations* *identifying, testing and applying value judgements*

Learning outcomes and levels of progression

As with personal skills, it is possible in developing a course to select the areas that are to be targeted, choose appropriate performance capabilities and formulate related learning outcomes.

For example:

Conceptual skill	**Performance capability**
Analysis	*making appropriate inferences from the analysis of data*

Learning outcomes

Level one:
By the end of the course, it is intended that the student will, within a simple problem, be able to organise data into **given** categories, **identifying key difficulties**, contradictions or gaps, and making **appropriate** inferences.

Level two:
By the end of the course, it is intended that the student will, within a **complex** problem, be able to organise data into appropriate **alternative** categories, **effectively addressing** key difficulties, contradictions or gaps, and making **appropriate** inferences.

Level three:
By the end of the course, it is intended that the student will, within a set of **complex** and **inter-related** problems, be able to **implement** and **adapt** a range of classification categories, **effectively addressing** key difficulties, contradictions or gaps, and making **appropriate** inferences.

Again, forms of assessment will to a significant degree be prescribed by the statements of learning outcomes, as well as the requirements of particular disciplines.

e) Interdisciplinary studies: some suggestions

A characteristic of the College's module offerings is that one module may constitute an element in two or more schemes. For example, in any one group of students following the module 'The Black British Experience', there may be BA Combined Studies students, those following the BA interdisciplinary scheme and others who are following a BA/BSc scheme with Qualified Teacher Status.

Each of these schemes has its own objectives, and hence some of the criteria used to determine the suitability of component modules are specific to itself, and are not shared by the other schemes. Yet its students may be studying in a single group along with students from other schemes.

At present the College has no way of resolving this dilemma.

The methodology of generic skills identification and assessment proposed above has the capacity to provide a solution.

The distinctive (as well as the shared) objectives and criteria of each scheme need to be reflected directly in the learning outcomes of the component modules. In a module with, say, four specified learning outcomes, three may be common to each scheme, while a fourth could be specific to the special requirements of each of the participating schemes. In practice, this would mean that some of the teaching and learning would be differentiated (into small group work, or independent learning perhaps) and elements in the assessment would be scheme-specific to reflect that.

Additionally, it would be possible using the the same methodology, for students at different levels to follow the same course, in the same teaching group.

That is, a consistent solution to the 'mixed scheme' teaching required by the logistics of viability lies within this proposal.

f) Summary

This paper has outlined a proposal:

- for implementing a systematic understanding of progression in learning
- with direct application to the college CAT scheme
- based on the learner's increasing independence
- demonstrated through developing capabilities within generic personal and conceptual skills (as well as subject-discipline and professional knowledge and skills)
- for which a method of assessment based on the learning outcomes approach is suggested
- and a solution to 'mixed scheme and level' teaching proposed

It is acknowledged that, both within the broad framework of its ideas and in the more detailed statements of performance capabilities, the model proposed is not comprehensive, and does not offer absolute precision and complete coherence. Actuality in learning and assessment is infinitely more complex than this (or any other) model can contain. This scheme offers a tool to enable categorisation of learning and, within the categories, a process of calibration. There are, necessarily, overlaps and imprecisions.

Thus, at some points, there are overlaps in the descriptors of capabilities (e.g. between analysis as a problem-solving skill and as a conceptual skill). At other points the terms used are of their nature imprecise (e.g. 'at an introductory level ... with appropriately limited scope ... complex and sophisticated content ... effectively addressing difficulties ... making appropriate inferences...').

However, these overlaps and imprecisions lie within acceptable limits and levels of tolerance — limits prescribed by the need for the model to be, on the one hand, a reasonably accurate match with actual learning and, on the other, to be a tool simple enough to be applied in the actual situation of learning and assessment.

In any event, the limits of tolerance proposed here are generally more precise and rigorous than those involved in most traditional modes of assessment in higher education. With what degree of rigour are objectives for course modules normally expressed? How precisely are the criteria for satisfactory performance usually defined? What exactly does the standard three-hour written paper assess? What constitutes a 2.1 essay?

The test of the model, as for any hypothesis, is not whether it is true but whether it is useful. That is, whether it provides a theoretical structure that can satisfactorily describe observed behaviour; that enables the behaviour to be categorised and evaluated; and that provides for useful extrapolation and prediction. This model, it is suggested, does enable valid, appropriate and practical descriptions and assessments of personal skills.

References

[1] 'Capability' — see rationale for this term on page 40.

[2] A 'skill', as defined within this model, is an abstract term denoting an area of ability, e.g. 'communication skill'.

[3] A 'performance capability' is here seen as the demonstration of capability in a given skill area. A definition of generic skills, such as those of Communication, is clarified and particularised by statements of performance capabilities, or how these skills will be made manifest: 'presenting, explaining, asserting, arguing, convincing'.

[4] See Section I 'Writing a Learning Outcomes-Based Course' on page 13.

[5] '... the description and assessment of learning outcomes need to proceed hand in hand.' (Otter, 1992, p.50)

2. Resource-based learning in Environmental Science

Graham Scott, University College, Scarborough

Graham Scott was one of the intake of staff employed at UCS from September 1993 to teach the college's new Combined Honours Degree. He brought with him valuable experience of resource-based learning, having been responsible for a course design project at the University of Newcastle-upon-Tyne. He is now implementing similar programmes at UCS.

The developments at the Department of Marine Sciences and Coastal Management at Newcastle were prompted by an increase in class size, which was putting pressure on staff and facilities. For example, there were not enough large rooms available for teaching. Resource-based learning material centred on fieldwork was developed, and answered both staffing and space problems. The skills developed by these courses were those of data collection and analysis, and synoptic presentation.

First-year students were found to be insufficiently confident to cope with this kind of learning, and Third Years needed more one-to-one supervision, since they were undertaking long studies based on their own research.

Second-year students were selected to trial the new materials, with a high level of success. Evaluation of the courses was thorough: there were questionnaires on each practical exercise, and at the end of each course.

Initially, staff were dubious: if set a three-hour practical assignment, they suggested, students would spend one hour working on it and the other two hours engaged in other activities, not necessarily related to Marine Biology.

Monitoring of the new course revealed, on the contrary, that students spent the full three-hour period preparing their work, then went out in their own time and did the assignment, spending on average an extra four hours to complete it, making a total of seven hours' work. Responses to an evaluative questionnaire revealed that students had enjoyed the course, and felt they had ownership of it, not only because

they had chosen this method of study from a number of options, but also because they felt it gave them more control of their own learning; in fact, they believed they were teaching themselves. They were also aware of their own progress and improvement, recognising that they could not have completed the later units without the experience gained by doing the earlier ones.

Units were carefully graded in difficulty: more assistance and information was given in the earlier course booklets than in the later ones, when students had gained expertise. Choices were, in fact, limited, but presented a degree of freedom not present in more traditional courses. Research also revealed that those who had used the new units were better prepared for the high level of autonomy required for the long project in the Third Year.

The courses

There were two types of course:

a) a short 'one-off', lasting a day or two days

b) six or seven weeks of work, completing a series of exercises every week

The kind of exercise was the same on both types.

The sole contact with the lecturer was a three-hour session at the outset. Students were given a booklet of project assignments, along with safety and first-aid guidelines. They were also shown a one-hour video on basic first-aid techniques and asked to sign a form stating what they thought might go wrong on their field trip and what they would do about it. This prompted some facetious answers, but was necessary for insurance purposes. For safety reasons, they were not allowed to work in groups of fewer than four people, and were encouraged always to inform someone of their location when they set out on field trips. Every group carried a first-aid kit.

The project booklets also contained a detailed guide on how to reach their destination, even down to which bus to catch, at which stop; a list of equipment and how to use it (the exercise, however, did not necessarily include information on which piece of equipment to use and when — this the students worked out for themselves); and thematic exercises, each covering a different aspect of the subject. Each exercise was set out like a scientific paper, with an Introduction followed by the Method, and so forth. In the more advanced units, the exercise was set out as a question for them to answer. All units required students to do some background reading, and a list of research papers was provided.

Evaluation

Staff were concerned that resource-based courses could make them redundant. However, students must still be taught in the first and third years, and the second year might then be made available for staff to work on their own research, for which there was otherwise little time.

The new courses were somewhat constrained by the need to fit in with the existing timetable; this meant that students could not necessarily go out on their field trips at the optimum time of day or week.

Some equipment was lost and broken: one lesson learned from the first trials of the courses was that a central office was required, with an attendant to receive and check equipment. A deposit should also be charged.

There was a heavy marking load for these courses: 120 students wrote eight essays each. One solution would be to stagger the due dates, but this would mean ensuring that students retain copies of their work for reference on their next exercise. Alternatively, evaluation could be made using more traditional methods: an examination and perhaps assessment of one or two of the essays.

Most importantly, Graham Scott suggests this kind of programme must be instituted for the right reasons, that is, to foster student-centred learning. This is not a soft option in course design, since the units are

tested by students at every stage of development. Once the courses are established, constant monitoring is essential, since for example, field sites may disappear due to development or, worse, become depopulated as a result of students' zeal.

However, this kind of course would appear to have many advantages, particularly in encouraging students to identify specific skills they can put on their curriculum vitae, which are more informative to a prospective employer than the bald 'BSc in Marine Biology'. They develop the ability to learn independently, and acquire or improve vital transferable skills such as the ability to work in a team, to do research on their own or in a group, and to analyse, summarise, and present information — to a deadline.

The advantages to the tutor, apart from some welcome research time, are in publishing possibilities: the course materials can be produced as a book, and sold to other institutions. All the exercises in the Marine Biology courses, for example, were self-contained, and some were accessible at sixth-form level, while others were capable of upgrading to the level of final-year honours programmes.

Peer assessment in French

David Moulds, The University College of Ripon and York St John

Dr David Moulds is Head of the Department of French Studies at UCRYSJ. The department has been part of the Enterprise in Higher Education initiative for over three years. At an EHE workshop session, David Moulds described his use of assessed group work as a means of enhancing students' personal presentation skills, teamwork, and critical evaluation.

Communication skills are central to modern language study. It is recognised, however, that the traditional prepared oral examination can be somewhat artificial in format, and does not promote the acquisition of 'functional' language skills, that is, the ability to use the language in everyday situations.

As an alternative approach, groups of students were trained to give short presentations to the rest of the class. Using this method, preparation must be done as far as possible in French, questions must be answered 'off the cuff' and, for the presentation to succeed, the language must clearly convey its message.

Assessed group presentation was made a part of the course, replacing an essay. Assessment raised a number of questions: should the final mark be given to the whole group, or to individual members of the group? Who should decide how great a contribution each individual had made? Who should give the mark — the group, the class, or the tutor?

After discussion with the students, the following method was tried:

Forty BA/BEd students were divided into groups of six or seven, and asked to present a critical analysis of a French television programme. They were given an outline of the kind of questions they should ask themselves, and three criteria for excellence:

- lively presentation
- interesting ideas
- clarity of diction

The students could have been asked to decide their own criteria, but as the discussion would have been in French, and these were First Year students, this might have been daunting for them.

Instead they received a *pro forma* assessment sheet which they filled in after they had listened to each group in turn. Each question on the sheet had four possible answers: 'very clear', 'clear', 'hard to understand' and 'very hard to understand', etc. These options were labelled A-D, each letter having a standard value.

Marks were given out of 20, then averaged. No provision was made for very high or very low marks. This gave a mark for each group. Then the students filled in another *pro forma* which stated the mark given to each group, along with the names of the members of the group. Each student was asked to assess the contribution of each member of the group to the preparation of the presentation. Possible marks were: 0 = average, -1 = pass, +1 = good.

David Moulds ran follow-up tutorials with each student to discuss their performance as revealed by the results and found that they were generally in favour of this approach. He thinks it is a moderately good diagnostic tool, showing that some students are lazy, and others quiet; overall, it seemed to encourage otherwise indifferent students to greater efforts. In the following year, the students received lists of how many good or bad comments their groups had received, and the reasons.

In another exercise, Second Year students were asked to write a lengthy anonymous critique of their colleagues' work and give it a mark out of 20. Some individuals, however, recognised each other's handwriting. This problem was discussed with student representatives, and the procedure revised so that the teacher took in the critiques, and gave an impersonal summary, containing statements such as: 'Ten people commented that you spoke too quickly'. The students were much happier with this method. An A4 sheet of the comments was then given to each individual, and overall marks. This procedure is highly labour

intensive, equating to marking the equivalent number of 2,000-word essays in French!

The class appreciated the comments, but were shocked by the divergence in marks, saying that they would prefer the tutor's judgement. In revealing the vagaries of marking schemes and the influence of subjective judgement, David Moulds says, the process was somewhat unsettling for the students. In general, however, he is in favour of assessed group work, especially having now worked on defining assessment criteria with the students. He sees it as an enlightening and often liberating experience for them, and very beneficial in terms of group dynamics.

Developing independent learning skills in English Studies

Timothy Middleton, The University College of Ripon and York St John

Tim Middleton is Head of the English Studies programme and Enterprise Co-ordinator for the English Department at UCRYSJ. At the onset of the EHE initiative, the Department designed an introductory course which emphasised the development of independent learning skills. Its aim was to transform the existing academic skills of students coming from highly-structured A-level courses into an intellectual independence which would take them successfully through their degree course and into the world of work.

Resource-based learning

Study booklets have been produced for use in particular courses and to improve generic study skills. They help students to focus and structure their own learning and allow lecturing staff to adopt a less transmissive approach, acting rather as learning facilitators.

The booklets have proved useful, and are praised by the students. They are, however, very time-consuming to produce, and there is a danger of them being reductive, if the students rely solely upon them. The booklets are subject to continuing evaluation, and have all been revised in the light of students' comments.

Assessment

Assessment techniques in the English Department now include the use of group presentations and peer assessment. Students are encouraged to design their own assessment criteria, and a booklet has been produced giving guidance on successful presentation. Members of staff have worked as a team to systematise the introduction of different individual and group learning strategies.

Course design

New courses are written in learning outcomes format and existing courses are being re-written. A course co-ordinator is designated to take overall responsibility for the management, monitoring and evaluation of each course. Evidence for evaluation is gathered from both tutors and students, through interviews and questionnaires. One of the most important considerations is whether modules overlap in their coverage of skills; such overlap must take the form of genuine reinforcement rather than unproductive iteration. It is also important to ascertain whether students fully understand the learning outcomes statements of particular modules.

Overview

Tim Middleton strongly believes that course design should be undertaken as a dynamic and developmental process, responding to students' needs. Courses should be written so that they allow for flexibility and interpretation on the part of the individual tutor, but an awareness of the programme as a whole must also inform the design of individual modules.

Finally, he notes that much that was innovative in course design and teaching/learning techniques can now be incorporated into the mainstream, as the learning outcomes model establishes itself as the norm.

Appendix

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